

WHAT IS CLAIMED IS:

1. A method of communicating between a TCP stack and an offload unit,
comprising:
 - writing a command including an index corresponding to a delegated
connection to an entry in a command ring;
 - reading the command from the entry in the command ring;
 - executing the command; and
 - writing command specific status to the entry in the command ring.
2. The method of claim 1, wherein the command includes a location of a buffer
for storing payload data produced by the offload unit.
3. The method of claim 1, wherein the command includes connection
information needed to setup a delegated connection.
4. The method of claim 1, wherein the command specific status includes a value
representing a number of buffers accepted by the offload unit.
5. The method of claim 1, further comprising:
 - writing a notification descriptor including an index corresponding to a
delegated connection to an entry in a notification ring; and
 - reading the notification descriptor from the entry in the notification ring.
6. The method of claim 5, wherein the notification descriptor includes one or
more notification flags indicating specific information for a connection.
7. A method of communicating between a TCP stack and an offload unit,
comprising:

writing a notification descriptor to an entry in a notification ring;
reading the notification descriptor from the entry in the notification ring;
and
determining connection information for a delegated connection based on
the notification descriptor.

8. The method of claim 7, wherein the notification descriptor includes an index corresponding to the delegated connection.
9. The method of claim 7, wherein the notification descriptor includes one or more notification flags the delegated connection.
10. The method of claim 7, wherein the notification descriptor includes a count of received acknowledgements.
11. The method of claim 8, wherein a flag indicates an acknowledgement threshold was reached on the delegated connection.
12. The method of claim 8, wherein a flag indicates a duplicate acknowledgement was received on the delegated connection.
13. The method of claim 8, wherein a flag indicates a sequence number threshold was reached on the delegated connection.
14. The method of claim 8, wherein a flag indicates at least a portion of frame data received on the delegated connection was uploaded by the offload unit to a legacy buffer.
15. The method of claim 8, wherein a flag indicates a request for a user buffer for uploading of payload data from the offload unit.

16. A system for transmitting commands from a TCP stack to an offload unit, comprising:
- a command ring configured to receive commands written by the TCP stack; and
 - a command unit configured to read commands from the command ring and to process the commands.
17. The system of claim 16, further comprising:
- a notification ring configured to receive connection information written by the offload unit and output connection information read by the TCP stack.
18. The system of claim 16, wherein the offload unit is configured to write command specific status to the command ring.
19. The system of claim 16, further comprising a transmit descriptor ring configured to transfer transmit buffer information from the TCP stack to the offload unit.
20. The system of claim 19, wherein the transmit buffer information includes a delegated connection index.
21. The system of claim 16, further comprising a receive descriptor ring configured to transfer receive buffer information from the TCP stack to the offload unit.
22. A system for transmitting connection information from an offload unit to a TCP stack, comprising:

a notification unit within the offload unit configured to write notification descriptors to a notification ring; and

the notification ring configured to output notification descriptors read by the TCP stack.

23. The system of claim 22, wherein the notification unit is configured to set one or more flags, each flag indicating connection information.

24. The system of claim 21, wherein the notification unit is configured to set a flag when at least a portion of a partially parsed frame is uploaded to a legacy buffer.

25. The system of claim 21, wherein each notification descriptor includes a sequence number.

26. The system of claim 21, wherein each notification descriptor includes an acknowledgement number.

27. The system of claim 21, wherein each notification descriptor includes a count of received acknowledgements.

28. A system for communicating between a TCP stack and an offload unit, comprising:

means for transmitting commands from the TCP stack to the offload unit; and

means for transmitting notification descriptors from the offload unit to the TCP stack.

29. The system of claim 28, further comprising:

means for transmitting command-specific status from the offload unit to the TCP stack.

30. The system of claim 28, further comprising:

means for transmitting receive buffer descriptors from the TCP stack to the offload unit.

31. The system of claim 28, further comprising:

means for transmitting transmit buffer descriptors from the TCP stack to the offload unit.